

REMARKS

Claims 1-5, 12-16, 23-27, and 29-31 are pending in the present application. Claims 1, 5, 12, 16, 23, 27, and 31 have been amended. Claims 6-11, 17-22, and 28 have been canceled. Reconsideration of the remaining claims is respectfully requested.

I. 35 U.S.C. § 101, Non-Statutory Subject Matter

The Examiner rejected claims 12-22 under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Specifically, the Examiner interpreted the term “computer-readable medium” in claims 12-22 as encompassing intangible transmission media, which are non-statutory subject matter.

As claims 17-22 have been canceled, the rejection is moot with respect to those claims. With respect to claims 12-16, Applicants have amended the claims (specifically claims 12 and 16) to recite explicitly that the computer-readable media claimed are *tangible* media. Applicants respectfully submit that this amendment obviates the Examiner’s Section 101 rejection of claims 12-16 and therefore request that the rejection be withdrawn.

II. 35 U.S.C. § 103, Obviousness, Claims 1-3, 5, 12-16, 23-25, 27, and 29-30

The Examiner rejected claims 1-3, 5, 12-16, 23-25, 27, and 29-30 under 35 U.S.C. § 103 as being obvious in view of *Spain et al.* (U.S. Patent No. 7,058,811) and *Anubolu et al.* (U.S. Patent 5,948,076). This rejection is respectfully traversed.

Without necessarily agreeing with the merits of the Examiner’s rejection, Applicants have amended the rejected independent claims (claims 1, 12, 23, and 27) to include a feature of executing boot-time code stored in a non-volatile store **embedded within a peripheral device**, wherein executing the boot-time code includes the actions of **determining, from identification numbers, if the peripheral device may be used with a particular device driver**; and **in response to a determination that the peripheral device may be used with a particular device driver**, writing a signature to a configuration space of the peripheral device.

Neither of the cited references teaches or suggests this feature. *Spain* teaches a system that determines if a given hardware device is counterfeit by having a device driver compare a decrypted cryptographic digital signature of the hardware device's hardware address (stored in a memory device) with an unencrypted form of the signature computed directly from the device's actual hardware address. [*Spain*, col. 3, lines 30-55]. *Spain* does not teach or suggest the feature of **device-embedded** boot-time code that **first** determines if a particular device driver may be used with the device, **then writes** a signature to the device's configuration space **if** the device and driver are usable together, as recited in Applicants' independent claims.

Moreover, *Spain* performs a different task altogether than does the presently claimed invention. The *Spain* system verifies the *authenticity* of a given hardware device (using digital signatures as a form of copy-protection). Unlike the presently claimed invention, however, *Spain* does not provide a mechanism for determining whether an authentic hardware device may actually be used with a given device driver (*e.g.*, whether the device driver has been certified to be compatible with the hardware device).

Anubolu also fails to teach or suggest the feature of **device-embedded** boot-time code that determines whether a particular device driver may be used with the device. *Anubolu* describes a hardware device with the ability to overwrite its PCI device ID register with its PCI subsystem ID, to allow device drivers and operating systems that are programmed only to read the device ID register to read the subsystem ID value instead. *Anubolu* does not teach or suggest providing device-embedded boot-time code that determines whether the device is compatible with a given driver, as in the presently claimed invention. In direct contrast to the presently claimed invention, *Anubolu* expects that the device driver or operating system will make its own driver-compatibility determination based on the subsystem ID it reads from the device ID register (thus requiring the device driver or operating system to have foreknowledge of all compatible subsystem IDs, unlike in the presently claimed invention, which allows compatible drivers to operate with newer hardware with unfamiliar subsystem and/or device IDs). [*Anubolu*, col. 2, lines 25-32].

Thus, independent claims 1, 12, 23, and 27 are not obvious in view of the above-cited references. Similarly, dependent claims 2-3, 5, 13-16, 24-25, 27, and 29-30 are also non-obvious in view of the cited references, at least by virtue of their dependency on independent claims 1, 12, 23, and 27. For these reasons, Applicants' respectfully request that the rejection of claims 1-3, 5, 12-16, 23-25, 27, and 29-30 under 35 U.S.C. § 103 be withdrawn.

III. 35 U.S.C. § 103, Obviousness, Claims 4, 26 and 31

The Examiner rejected claims 4, 26, and 31 under 35 U.S.C. § 103 as being obvious in view of *Spain et al.* (U.S. Patent No. 7,058,811), *Anubolu et al.* (U.S. Patent 5,948,076), and *Connor et al.* (U.S. Patent Application Publication 2005/0038981). This rejection is respectfully traversed.

Claims 4 and 26 are dependent claims that depend from independent claims 1 and 23, respectively, and are patentable over *Spain* and *Anubolu* for the reasons set forth above. The additionally cited *Connor* reference fails to cure the deficiencies of *Spain* and *Anubolu* with respect to the features of independent claims 1 and 23 that are contained in claims 4 and 26 by dependency. Specifically, *Connor* fails to teach or suggest the claimed feature of executing boot-time code stored in a non-volatile store **embedded within a peripheral device**, wherein executing the boot-time code includes the actions of **determining, from identification numbers, if the peripheral device may be used with a particular device driver**; and **in response to a determination that the peripheral device may be used with a particular device driver**, writing a signature to a configuration space of the peripheral device. As independent claim 31 also recites this feature, *Connor* also fails to teach or suggest all features of claim 31 for the same reason.

While *Connor* does teach the use of an "initialization signature register," the nature of this "signature register" is quite different from the "signature" recited in claims 4 and 26. *Connor* teaches that the initialization signature register is used to store device initialization and state data so that the underlying state of the device can be determined by a device driver or by BIOS without having to reset the device state. As *Connor* states, "This allows the device driver to trust the state of the underlying hardware; therefore the driver does not need to force the hardware into a known state and restart the device

configuration, and thereby waste time.” [Connor, para. 0027]. Connor does not teach or suggest any feature relating to embedded boot-code determining whether a device may be operated in conjunction with a given device driver.

Thus claims 4, 26, and 31 are patentable over the cited references for at least the reasons set forth with respect to independent claims 1 and 23, above.

IV. Conclusion

It is respectfully urged that the subject application is patentable over the prior art of record and is now in condition for allowance.

The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

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Respectfully submitted,

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